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Attorney's Docket No.: 07072-152001 / EMC 02-203

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) In a data-storage system, a method for providing data indicative of the performance of a competing algorithm and an incumbent algorithm, said method comprising:

   evaluating an incumbent-algorithm score indicative of a performance of an incumbent algorithm;

   simulating performance of a competing algorithm executing in place of said incumbent algorithm;

   on the basis of said simulation, evaluating a competing-algorithm score predictive of a corresponding performance of said competing algorithm; and

   providing said competing-algorithm score and said incumbent-algorithm score to an output device.

2. (Currently Amended) The method of claim 1, further comprising providing data indicative of a performance difference between [whether] said competing algorithm [is preferable to] and said incumbent algorithm.

3. (Currently Amended) The method of claim 2, wherein providing data comprises monitoring said incumbent-algorithm score and said competing-algorithm score [over] during a selected interval.

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4. **(Original)** The method of claim **3**, wherein providing data further comprises displaying data indicative of a performance of said incumbent algorithm and said competing algorithm during said selected interval.

5. **(Currently Amended)** The method of claim [3] **4**, wherein displaying data comprises evaluating a ratio indicative of an extent to which said competing-algorithm score exceeds said incumbent algorithm score during said selected interval.

6. **(Original)** The method of claim **1**, wherein simulating performance comprises:

   obtaining meta-data characterizing an input-data stream provided to said incumbent algorithm; and

   simulating performance of said competing algorithm were it to operate on an input-data stream characterized by said meta-data.

7. **(Original)** The method of claim **6** wherein obtaining meta-data comprises maintaining statistics descriptive of said input data-stream during a selected interval.

8. **(Original)** The method of claim **1**, wherein evaluating a competing-algorithm score comprises incorporating a penalty into said competing-algorithm score.

9. **(Original)** The method of claim **8**, further comprising selecting said penalty to be indicative of a cost associated with replacing said incumbent algorithm with said competing algorithm.

10. **(Original)** A method for providing data indicative of a performance of a competing algorithm and an incumbent algorithm in a data-storage system, said method comprising:

    statistically characterizing a usage pattern of said data-storage system; and

    on the basis of said statistical characterization, simulating a performance of said competing algorithm were it to execute on said data-storage system in place of said incumbent algorithm.

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11.   **(Currently Amended)** The method of claim **10**, further comprising:

        evaluating actual performance of said incumbent algorithm in response to said usage pattern;

        simulating <u>said</u> performance of said competing algorithm in response to said usage pattern; and

        communicating, to an output device, data indicative of a comparison between said actual performance of said incumbent algorithm and said simulated performance of said competing algorithm.

12.   **(Original)** The method of claim **10**, wherein statistically characterizing a usage pattern of said data-storage system comprises generating meta-data that characterizes an input data-stream to said data-storage system.

13.   **(Currently Amended)** The method of claim **11**, further comprising incorporating a cost of replacement into a performance selected from <u>the group consisting of:</u>

        <u>(1)</u> said actual performance of said incumbent algorithm<u>,</u> and

        <u>(2)</u> [a] <u>said</u> simulated performance of said competing algorithm.

14.   **(Currently Amended)** A method for comparing performances of a plurality of algorithms in performing a task, said method comprising:

        simulating execution of a competing algorithm operating on [said] <u>an</u> input stream;

        evaluating, on the basis of said simulation, a competing-algorithm performance of said competing algorithm;

        evaluating <u>an incumbent-algorithm</u> performance of an incumbent-algorithm operating on said input stream; <u>and</u>

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providing data indicative of a comparison between said incumbent-algorithm

performance and said competing-algorithm performance.

15. **(Currently Amended)** A data-storage system comprising[:]

a processor,

and computer-readable media having software encoded thereon, said software having

instructions for causing the processor to execute

a data-condenser configured to receive a data-stream, said data-condenser generating

meta-data characterizing said data stream;

a competing-algorithm simulator in communication with said data-condenser, said

competing algorithm simulator generating data indicative of a performance attribute

of a competing algorithm when said competing algorithm operates on a data-stream

characterized by said meta-data; and

a tournament manager configured to provide output data indicative of a comparison

between a performance attribute of said competing algorithm and a corresponding

performance attribute of an incumbent algorithm.

16. **(Currently Amended)** A computer-readable medium having encoded thereon software

for providing data indicative of the performance of a competing algorithm and an

incumbent algorithm, said software comprising instructions for:

evaluating an incumbent-algorithm score indicative of a performance of an incumbent

algorithm;

simulating performance of a competing algorithm executing in place of said incumbent

algorithm;

on the basis of said simulation, evaluating a competing-algorithm score predictive of a

corresponding performance of said competing algorithm; and

providing said competing-algorithm score and said incumbent-algorithm score to an

output device.

17.   **(Currently Amended)** The computer-readable medium of claim **16**, wherein said

software further comprises instructions for providing data indicative of <u>a performance</u>

<u>difference between</u> [~~whether~~] said competing algorithm [~~is preferable to~~] <u>and</u> said

incumbent algorithm.

18.   **(Currently Amended)** The computer-readable medium of claim **17**, wherein said

instructions for providing data comprise instructions for monitoring said incumbent-

algorithm score and said competing-algorithm [~~score~~] <u>during</u> over a selected interval.

19.   **(Original)** The computer-readable medium of claim **18**, wherein said instructions for

providing data further comprise instructions for displaying data indicative of a

performance of said incumbent algorithm and said competing algorithm during said

selected interval.

20.   **(Currently Amended)** The computer-readable medium of claim [~~18~~] <u>19</u>, wherein said

instructions for displaying data comprise instructions for evaluating a ratio indicative of

an extent to which said competing-algorithm score exceeds said incumbent algorithm

score during said selected interval.

21.   **(Currently Amended)** The computer-readable medium of claim **16**, wherein said

instructions for simulating performance comprise instructions for:

obtaining meta-data characterizing an input-data stream provided to said incumbent

algorithm; and

<u>wherein simulating performance of a competing algorithm comprises</u> simulating

performance of said competing algorithm were it to operate on an input-data stream

characterized by said meta-data.

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22.   **(Original)** The computer-readable medium of claim **21** wherein said instructions for obtaining meta-data comprise instructions for maintaining statistics descriptive of said input data-stream during a selected interval.

23.   **(Original)** The computer-readable medium of claim **16**, wherein said instructions for evaluating a competing-algorithm score comprise instructions for incorporating a penalty into said competing-algorithm score.

24.   **(Original)** The computer-readable medium of claim **23**, wherein said software further comprises instructions for selecting said penalty to be indicative of a cost associated with replacing said incumbent algorithm with said competing algorithm.

25.   **(Original)** A computer-readable medium having encoded thereon software for providing data indicative of a performance of a competing algorithm and an incumbent algorithm in a data-storage system, said software comprising instructions for:

statistically characterizing a usage pattern of said data-storage system; and

on the basis of said statistical characterization, simulating a performance of said competing algorithm were it to execute on said data-storage system in place of said incumbent algorithm.

26.   **(Currently Amended)** The computer-readable medium of claim **25**, wherein said software further comprises instructions for:

evaluating actual performance of said incumbent algorithm in response to said usage pattern;

simulating <u>said</u> performance of said competing algorithm in response to said usage pattern; and

communicating, to an output device, data indicative of a comparison between said actual performance of said incumbent algorithm and said simulated performance of said competing algorithm.

27.   **(Original)** The computer-readable medium of claim **25**, wherein said instructions for statistically characterizing a usage pattern of said data-storage system comprise instructions for generating meta-data that characterizes an input data-stream to said data-storage system.

28.   **(Currently Amended)** The computer-readable medium of claim **26**, wherein said software further comprises instructions for incorporating a cost of replacement into a performance selected from said actual performance of said incumbent algorithm and [a] said simulated performance of said competing algorithm.

29.   **(Currently Amended)** A computer-readable medium having encoded thereon software for comparing performances of a plurality of algorithms in performing a task, said software comprising instructions for:

simulating execution of a competing algorithm operating on said input stream;

evaluating, on the basis of said simulation, a competing-algorithm performance of said competing algorithm;

evaluating an incumbent-algorithm performance of an incumbent-algorithm operating on said input stream;

providing data indicative of a comparison between said incumbent algorithm and said competing algorithm.